

ABSTRACT OF THE DISCLOSURE

There are many inventions described herein. In one aspect, the present invention is a method of acoustically monitoring a wind power installation that generates electrical power. The wind power installation includes a plurality of components, including at least rotor blades. The method comprises detecting an operating acoustic spectrum generated by at least one of the components during operation of the wind power installation and comparing the operating acoustic spectrum to a reference acoustic spectrum. The method of this aspect of the invention further comprises detecting a deviation between the operating acoustic spectrum and the reference acoustic spectrum and detecting whether the deviation exceeds a threshold. In the event that the deviation between the operating acoustic spectrum and the reference acoustic spectrum exceeds the threshold, the method of the present invention also communicates audible sounds which caused the deviation between the operating acoustic spectrum and the reference acoustic spectrum to a remote monitoring center.